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PRE-APPEAL BRIEF REQUEST FOR REVIEW	Docket Number (Optional) 06005/35628A	
	Application Number 09/510,053	Filed February 22, 2000
	First Named Inventor Mark J. Nixon et al.	
	Art Unit 2123	Examiner K. Thangavelu

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- [ ] applicant /inventor.
- [ ] assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- [ ] attorney or agent of record. Registration number _____
- [x] attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34. 37,641

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December 22, 2005
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

- [ ] *Total of 1 forms are submitted.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: MS AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: December 22, 2005 Signature: _____ (Roger A. Heppermann)

STATEMENT IN SUPPORT OF PRE-APPEAL BRIEF REQUEST FOR REVIEW

The Examiner maintains the rejections of claims 1-21 as obvious over Leibold (U.S. Patent No. 5,818,736) ("Leibold") in view of Brown et al. (U.S. Patent No. 6,377,859) ("Brown I") either alone, or in combination with one or more of what the examiner has characterized as the "Admitted prior art", Bowling (PCT WO 97/45778), Santoline et al. (PCT WO 97/38362), and Brown et al. (U.S. Patent No. 6,192,281) ("Brown II"). The Examiner's rejections should not be upheld for reasons best summarized in a discussion of independent claims 1, 12 and 19.[1] In summary, however, the Examiner has failed to provide factual support for the rejections sufficient to establish a *prima facie* case of obviousness, and thus the rejections should be withdrawn.

A. Rejection of Independent Claims 1 and 12 as Obvious Over Leibold in View of Brown I

Claims 1 and 12 are generally directed to a system or a method that simulates, on a single computer, the operation of and communication interactions between various process control components of a distributed process control network in which the various components are designed to be run in different computing or logic devices when actually implemented in the process control environment. More specifically, the system and method of claims 1 and 12 enable a distributed process control routine that has components that are to be stored in and executed on different devices when actually used in a distributed process control system to be both designed (created) and tested on a single simulation computer. Such a combined design and operational testing system is particularly useful in distributed process control systems (in which control modules are generally located and executed in different process control devices disposed at separate locations in the process plant) because it simplifies testing in an environment in which it is sometimes difficult to correctly create the appropriate process control modules without taking into account the communication interconnections between the different devices in which these modules are executed. Claims 1 and 12 therefore recite the novel and non-obvious combination of creating (or editing) and then simulating, on a single computer device, a set of process control modules which are designed

[1] Independent claims 1 and 12 are rejected as obvious over Leibold in view of Brown I while independent claim 19 is rejected as obvious over Leibold in view of Brown I and further in view of Brown II.

to be implemented in different devices when used for their intended purpose as part of a distributed process control system.

This concept differs substantially from the systems disclosed in the cited art of Leibold and Brown I. In particular, Leibold discloses the concept of using a simulation computer to simulate the operation of logic to be run within a ***single*** process control device in a process control system (e.g., a simulation computer for a single logic point). As a result, the Leibold system basically implements the well-known concept of re-hosting logic to be executed within a single process control device onto a separate simulation computer. Brown I, on the other hand, simply discloses a distributed process control system that includes different software or control elements in different devices of the process control system during operation of that distributed process control system. Brown I discloses nothing about, and is not concerned with simulating the operation of the distributed process control system disclosed therein. As a result, it is Applicants' contention that no combination of Leibold and Brown I would produce the invention recited by claims 1 and 12. Furthermore, even if Leibold and Brown I could be combined to produce the recited combination, neither Leibold nor Brown I provides any motivation or suggestion for doing so.

In particular, while Leibold discloses a simulation device for a distributed process control system, it is clear that the Leibold simulation computer only simulates the logic located in or associated with a single controller device, i.e., the process controller 105 of Fig. 1. See, for example, Leibold, Col. 5, ll. 50-53 and 63-67; Col. 6, ll. 42-56, which clearly state that, while multiple logic blocks may be simulated, each of the simulated logic blocks is disposed within or is associated with the same "logic point" i.e., logic device. Moreover, the Leibold system goes so far as to require a database within the simulation computer that stores simulated senor inputs, thereby clearly indicating that this system does not simulate communications between different devices. See, Leibold, Col. 2, ll. 53-58. It is therefore clear that Leibold does not disclose or suggest a simulation system that simulates the interaction of two control modules associated with different control devices. The Examiner essentially concedes this point. See, Final Office Action mailed Sept. 22, 2005, pg. 4, ll. 6-8.

Moreover, if Leibold teaches anything, it teaches that simulation of a process control network must be accomplished on a logic point, by logic point basis. Thus, even if it were possible to modify the Leibold process control system to be a distributed system having

control modules executed in different devices, the basic teaching of Leibold would require multiple simulation computers, that is, one for each logic point, to simulate this system.

While Brown I discloses a distributed process control system that includes control modules disposed in various and different devices and in which the control modules communicate with one another during operation of the process control system, Brown I provides no disclosure what-so-ever pertaining to any manner of simulating such a process control system. In fact, as discussed in the Background section of the current application, the prior art simulation methods for distributed process control systems, such as that of Brown I, required the use of multiple computer and hardware devices to assure that all of the communications between various devices within the process plant were being correctly simulated. See, Application Specification, pg. 4, ll. 1-20.

The fact that Brown I discloses that it is desirable to actually ***implement*** a distributed process control system having multiple control modules disposed in various devices does not amount to a suggestion or a motivation to ***simulate*** the multiple control modules in any manner, much less to do so on a single simulation computer, as is recited by claims 1 and 12. In fact, the opposite is true. That is, one skilled in the art, when trying to simulate the distributed process control system of Brown I would be motivated to use multiple simulation devices to mimic the set up of the Brown I process control network and thereby to be able to simulate not only the operation of the various control modules in different devices, but also the inter-device communications between these different control modules.

The Examiner has simply failed to point to any actual motivation in either of Leibold or Brown I to make the claimed combination. As indicated above, the Examiner admits that Leibold does not suggest simulating a process control system having different control modules disposed in different computing or logic devices. Moreover, the Examiner's recitation of a "motivation" in Brown I (see, Final Office Action mailed Sept. 22, 2005, pg. 4, ln. 19 to pg. 5, ln. 2), has nothing to do with advantages obtained by a ***simulation*** system. Instead, each of the "advantages" pointed to by the Examiner in this section of the Final Office Action are advantages obtained by providing an actual distributed process control system with multiple control modules located in different devices. None of these advantages is obtained or realized by a simulation system of any kind, much less by a simulation system that simulates multiple control modules designed to be implemented on different devices on a

single simulation computer. The Examiner simply provides no explanation of how using a single simulation computer to execute control modules to be run on different process control devices enables "devices made by different manufacturers to interoperate, the process control to be decentralized and the distributed control systems to be simplified," nor can he as a simulation system has nothing to do with obtaining these advantages.[2] Moreover, there is no reason to modify the simulation blocks of the Leibold simulation system because the actual Leibold process control system (which is being simulated) does not support such modules.

Basically, the Examiner fails to explain how Brown I, which is not at all concerned with a simulation system, can possibly suggest anything with respect to implementing a simulation system. Rather the knowledge relied upon by the Examiner as the basis for the obviousness rejection has been gleaned only from applicant's disclosure, as neither Leibold nor Brown I discloses any manner of simulating a distributed process control system having control modules executed in different devices, much less provides any disclosure of or reason for implementing such a simulation system on a single computer. This amounts to impermissible hindsight analysis. See, *In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

The Examiner has thus failed to establish a *prima facie* case of obviousness with respect to claims 1 and 12 as the Examiner has failed to show how the systems of Leibold and Brown I could be combined to produce a simulation system for distributed process control network having control modules executed in different devices, or any motivation for changing the Leibold system to produce such a simulation system on a single computer.

B. Rejection of Independent Claim 19 as Obvious Over Leibold in View of Brown I and Brown II

Claims 19 basically recites a system having a controller application which is designed to operate in a first type of a distributed controller but which can also act outside of the distributed controller as part of an interface between a user interface or display and a second

[2] The Examiner's reference to the portion of Brown I dealing with the advantages of a truly distributed process control system is simply a red herring and does not provide the motivation or teaching suggested by the Examiner. While, at best, this disclosure may amount to a suggestion to create an actual process control network having process control modules implemented in different devices, this statement provides no recognizable reason or motivation to combine control modules used in these different devices into a single computer of any kind, much less into a single simulation computer.

and different type of controller (e.g., one using a different communication protocol) that may be, for example, operating within an actual process plant.

The examiner admits that Leibold (and presumably Brown I) does not disclose a system in which one controller application communicates with another controller application, wherein these controller applications use different protocols. See, Final Office Action mailed Sept. 22, 2005, pg. 16, ll. 4-6. The Examiner instead, cites Brown II for this feature.[3] However, contrary to the Examiner's assertion, Brown II does not disclose a system having multiple process controller applications that use different communication or computer protocols and that communicate with one another.

The portions of Brown II cited by the Examiner simply do not support the Examiner's contention. In particular, the portions of Brown II cited by the Examiner merely indicate that (1) a number of different open communication protocols (such as the HART, PROFIBUS, FOUNDATION™ Fieldbus, etc. protocols) exist and (2) that the system described in the Brown II patent is not limited to the use of any particular one of these protocols. Thus, while Brown II discloses a system that uses an open protocol to provide communications between different devices therein, the Brown II system does not disclose that two of the process controller applications therein can or should use different ones of these possible communication protocols. Instead, it is clear that, in each instance where controller applications are communicating with one another in the Brown II system, these controller applications use the same communication protocol. Moreover, it is noted that the NAFI device of the Brown II system is not a controller application and does not appear to provide communications between two different controller applications. Thus, any disclosure pertaining to the NAFI device is irrelevant to the Examiner's combination.

For these reasons, the Examiner's combination does not produce a system having multiple controller applications that communicate with one another and that use different communication protocols. Therefore no combination of Leibold and Brown I and Brown II can produce the invention of claim 19. Moreover, none of this art provides any suggestion or motivation to produce a system having this combination of features. As a result, the Examiner has failed to establish a *prima facie* case of obviousness for claim 19.

[3] Brown II is cited for the first time in the Final Office Action mailed Sept. 22, 2005, and thus Applicants have not had a previous opportunity to respond to this particular rejection.